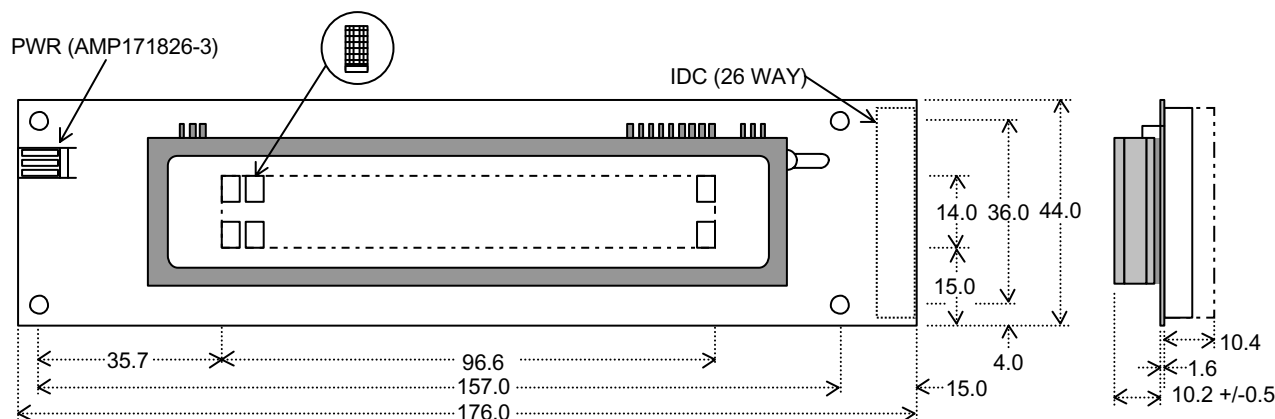# 5X7 Dot Character VFD Module   CU20026SCPB-KS20AB

- ❑ **2 Lines of 20 Characters 5mm High**
- ❑ **High Speed Parallel Interface**
- ❑ **Operating Temp -20°C to +60°C**
- ❑ **Single 5V Supply**
- ❑ **High Brightness Blue Green Display**
- ❑ **8 User Definable Character RAM**

The module includes the Vacuum Fluorescent Display glass, driver and micro-controller ICs with refresh RAM, character generator and interface logic. The high speed 8 bit parallel interface is 5V CMOS compatible suitable for connection to a host CPU bus. Two character font tables can be hardware or software selected. User defined characters and many control commands are available.

PWR (AMP171826-3)

IDC (26 WAY)

14.0 36.0 44.0

15.0

10.4

4.0

1.6

15.0

10.2 +/-0.5

35.7   96.6

157.0

176.0

Dimensions in mm & subject to tolerances. Mounting holes 3.5mm dia.

ELECTRICAL SPECIFICATION

Parameter	Symbol	Value	Condition
Power Supply Voltage	V_{CC}	5.0VDC +/- 5%	G_{ND}=0V
Power Supply Current	I_{CC}	320mADC typ.	Vcc=5V
Logic High Input	V_{IH}	2.0VDC min.	Vcc=5V
Logic Low Input	V_{IL}	0.8VDC max.	Vcc=5V
Logic High Output	V_{OH}	4.0VDC min.	I_{OH} = -400µA
Logic Low Output	V_{OL}	0.45VDC max.	I_{OL} =1.6mA

The power on rise time should be less than 50ms.The inrush current at power on can be 2 x I_{CC}.

OPTICAL and ENVIRONMENTAL SPECIFICATIONS

Parameter	Value
Character Size/Pitch (XxY mm)	3.5 x 5.0/4.9 x 8.0
Dot Size/Pitch (XxY mm)	0.5 x 0.55/0.75 x 0.75
Luminance	700 cd/m² (204 fL) Typ.
Colour of Illumination	Blue-Green (Filter for colours)
Operating Temperature	-20°C to +60°C
Storage Temperature	-40°C to +70°C
Operating Humidity (non condensing)	20 to 80% RH @ 25°C

CHARACTER FONT

Conversion Codes

SOFTWARE COMMANDS

Instruction	AO	D0-D7	Instruction	AO	D0-D7
Back Space	0	08H	Cursor Invisible	0	15H
Horizontal Tab	0	09H	Cursor blinking Underline	0	16H
Line Feed	0	0AH	SUB- English font	0	1AH
Home	0	0BH	Escape – User Font	0	1BH
Clear Display	0	0CH	FS – Danish Font	0	1CH
Carriage Return	0	0DH	GS – General European	0	1DH
Select Write Speed	0	0EH	RS – Swedish Font	0	1EH
Character overwrite	0	11H	US – German Font	0	1FH
Scroll up	0	12H	Position Cursor	1	00-27H
Cursor Underline	0	13H	Software Reset	1	50H
Cursor Blinking	0	14H	Read Cursor Position	1	51H

TIMING PARAMETERS (min)

Data Set Up To Write	50ns
Write Pulse Width	120ns
Hold After Write	10ns

DATA READ

Function	RD	AO
Read Data	0	0
Read Status	0	1

When RESET = '1' the display is cleared and the cursor set to home.
When TEST is held low for 100ms at power on the font test is activated.

IDC DATA CONNECTOR

Pin	Sig	Pin	Sig
1	D7	2	G_{ND} (0V)
3	D6	4	G_{ND} (0V)
5	D5	6	G_{ND} (0V)
7	D4	8	G_{ND} (0V)
9	D3	10	G_{ND} (0V)
11	D2	12	G_{ND} (0V)
13	D1	14	G_{ND} (0V)
15	D0	16	G_{ND} (0V)
17	/WR	18	G_{ND} (0V)
19	A0	20	RESET
21	/RD	22	G_{ND} (0V)
23	/CS	24	G_{ND} (0V)
25	T_{EST}	26	G_{ND} (0V)

3 PIN POWER CONNECTOR

Pin	Sig
1	V_{CC} (5V)
2	T_{EST}
3	G_{ND} (0V)

Mates with AMP171822-3

Contact

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Subject to change without notice.
Detailed specification on request.
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NORITAKE ITRON VFD MODULES   2x20, 5mm Dot Character